## **ABSTRACT**

The invention provides chemical conjugates between an immunoglobulin Fab fragment and molecular entities imparting diagnostic or therapeutic utility, whereby the only sites of conjugation on the Fab fragment are one or both of the sulfhydryl groups deriving from the selective and quantitative reduction of the inter-chain disulfide bond of said Fab fragment and whereby said molecular entities imparting diagnostic or therapeutic utility have at least one free sulfhydryl-reactive group, characterized in that the conjugation stoichiometric molar ratio molecular entity to Fab fragment is in the range from 0.95 to 1.05 or in the range from 1.95 to 2.05.

The invention also provides a process for preparing said conjugates and pharmaceutical compositions thereof.

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